

FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.

09/658,215

10636-005001

1/21

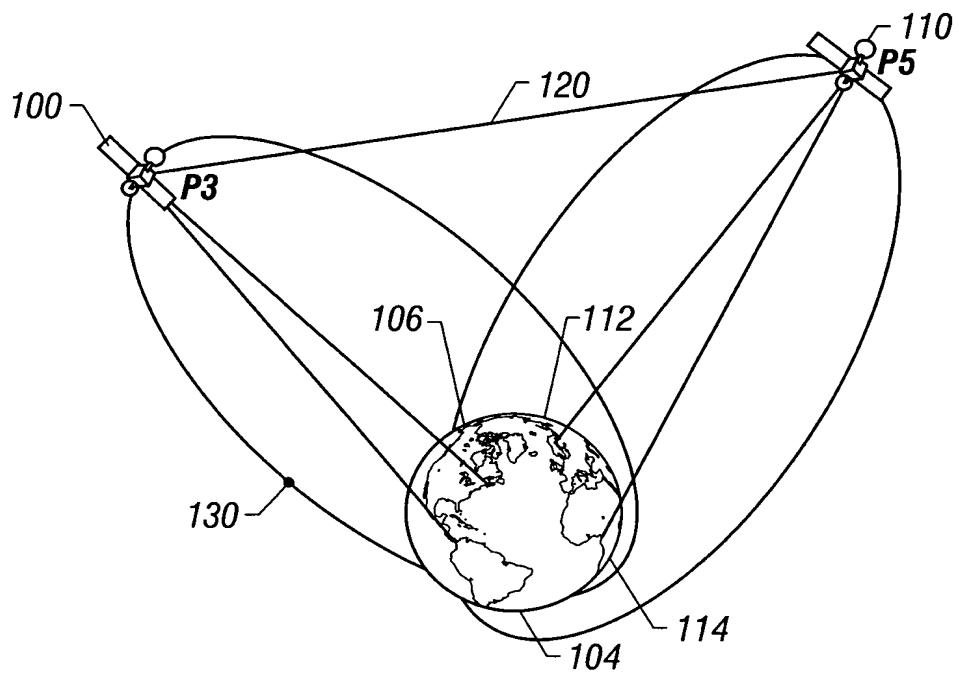


FIG. 1

O I P E
DEC 29 2003
PATENT & TRADEMARK OFFICE
Page 2 of 21
FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
09/658,215
10636-005001

2/21

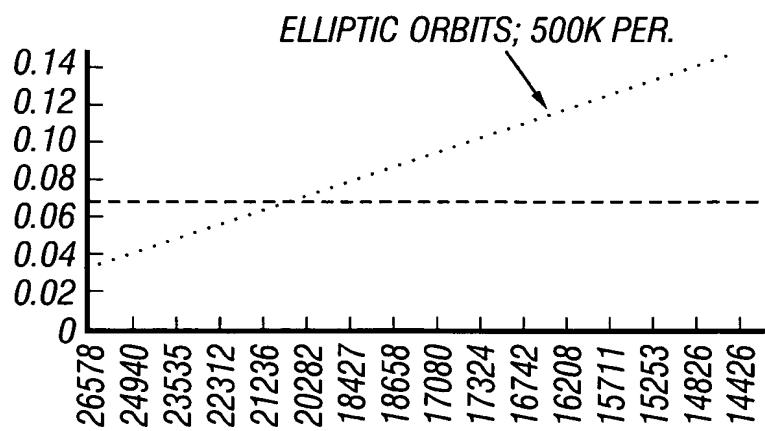
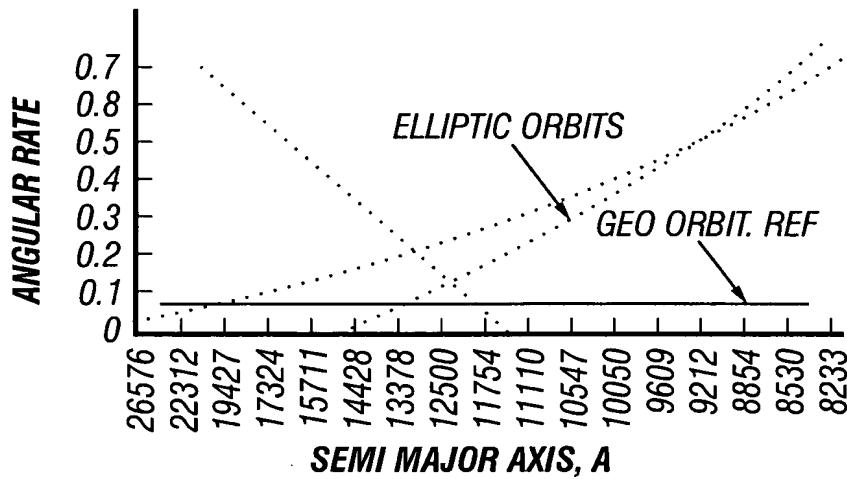


FIG. 1A



Page 3 of 21
 FIXED SATELLITE COMMUNICATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
 GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
 09/658,215
 10636-005001

3/21

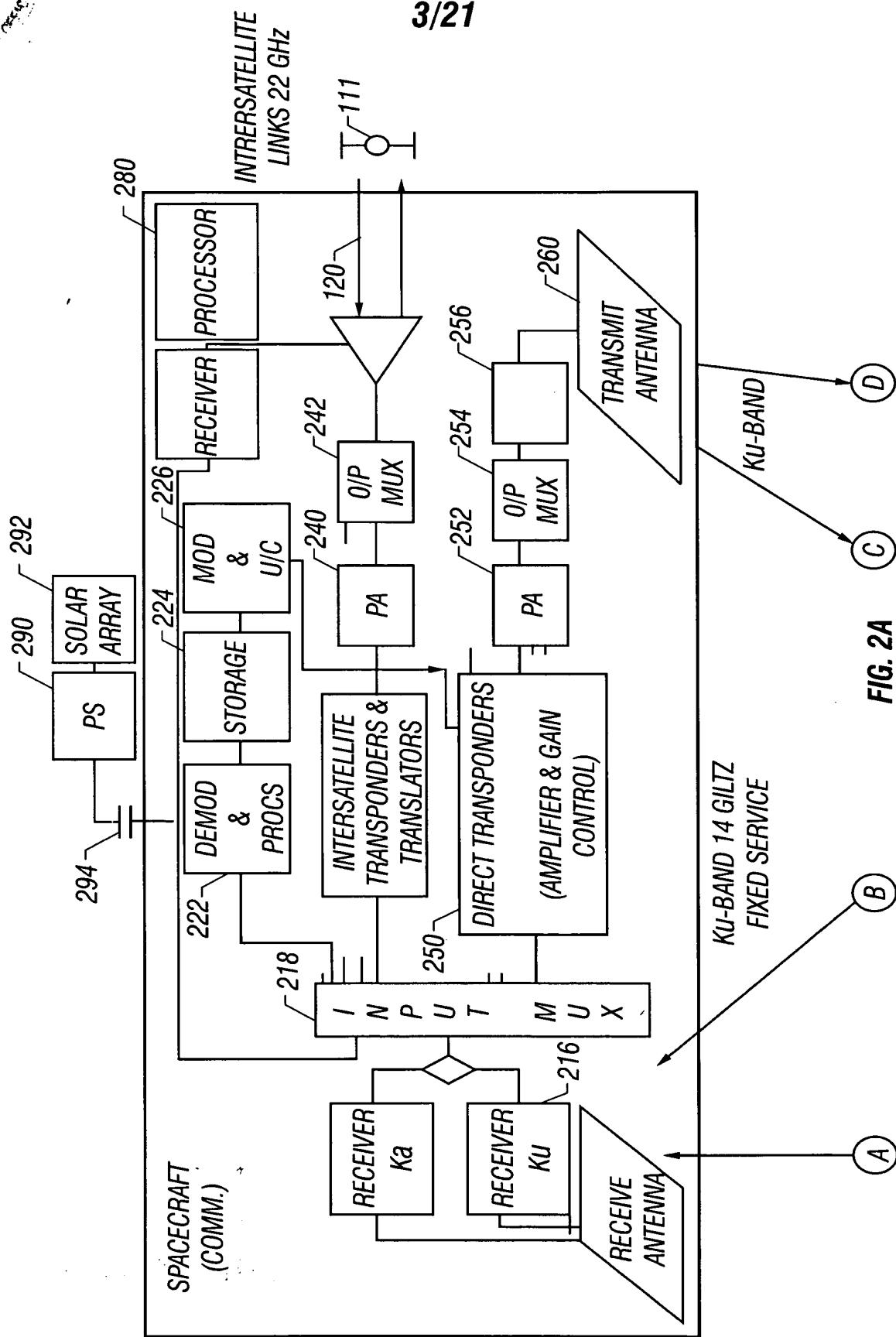


FIG. 2A

(A) → (B) → (C) → (D)



Page 4 of 21
 FIXED SATELLITE COMMUNICATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
 GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
 09/658,215
 10636-005001

4/21

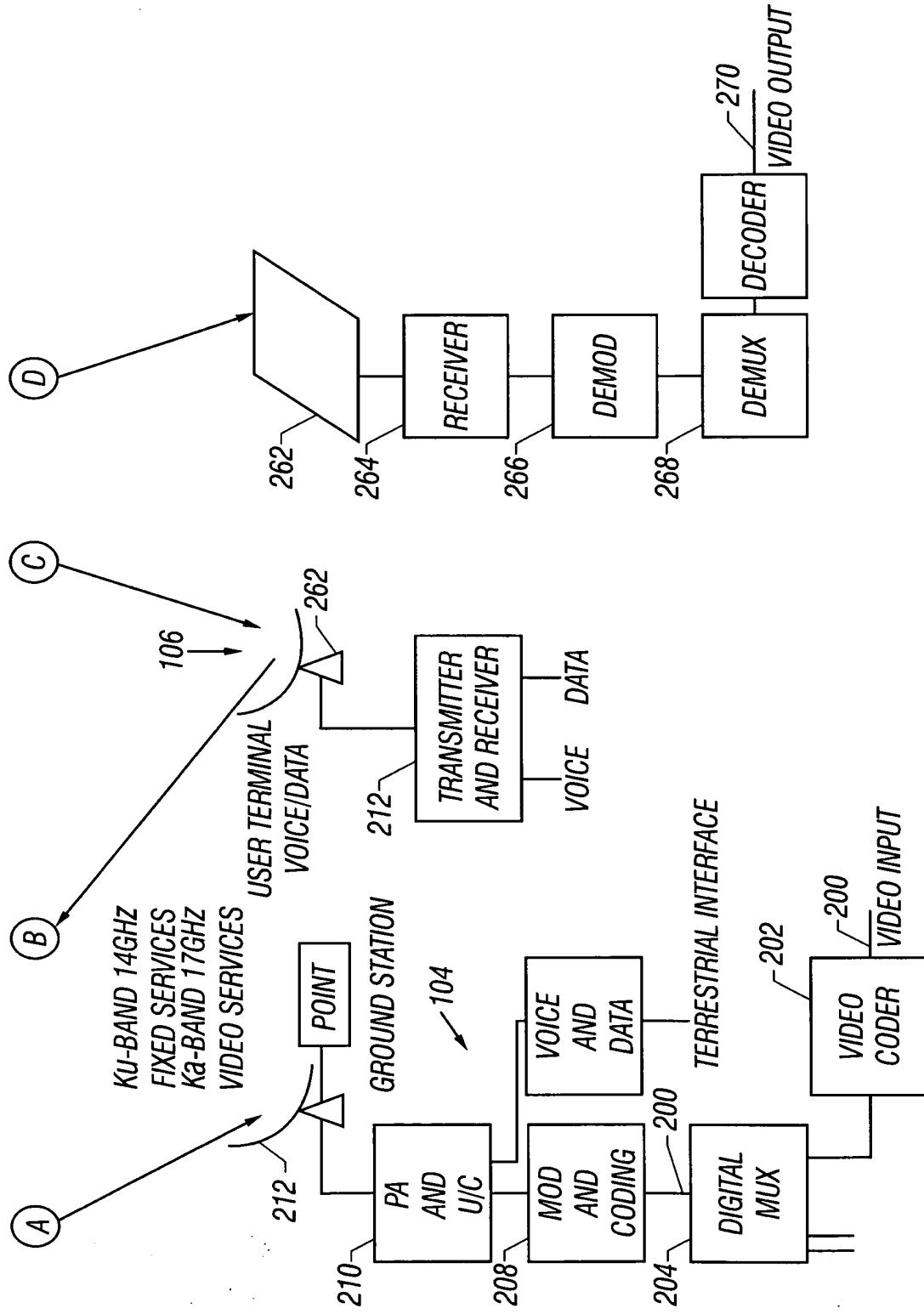


FIG. 2B

David Castiel, et al.
09/658,215
10636-005001

5/21

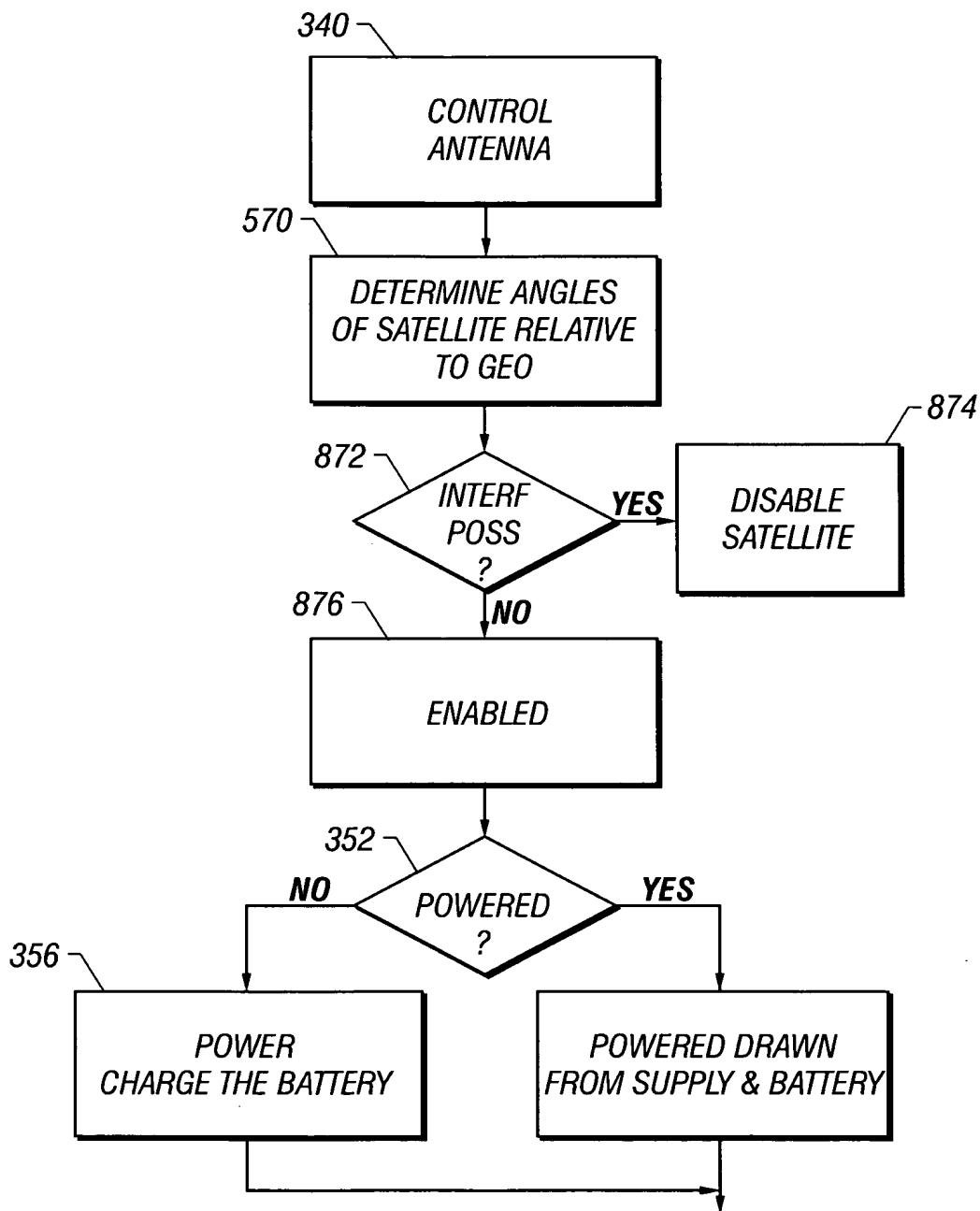


FIG. 2C

David Castiel, et al.

09/658,215

10636-005001



6/21

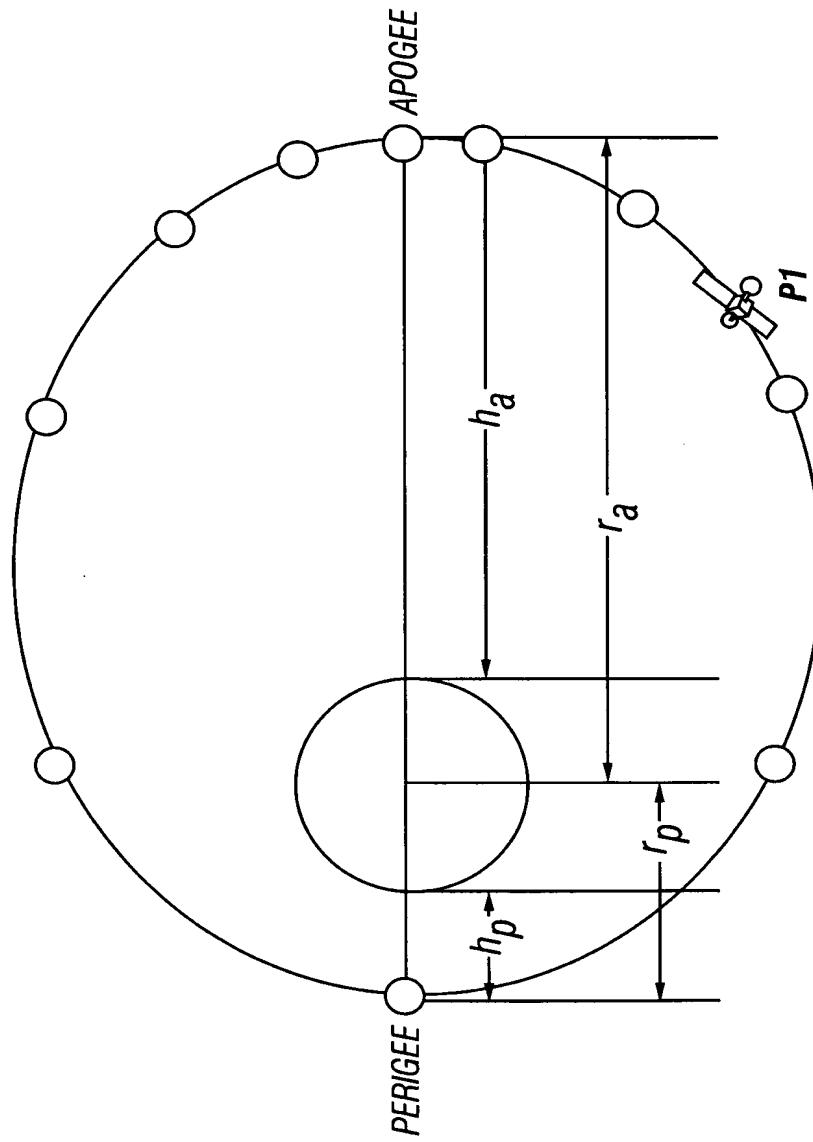


FIG. 3

David Castiel, et al.

09/658,215

10636-005001



7/21

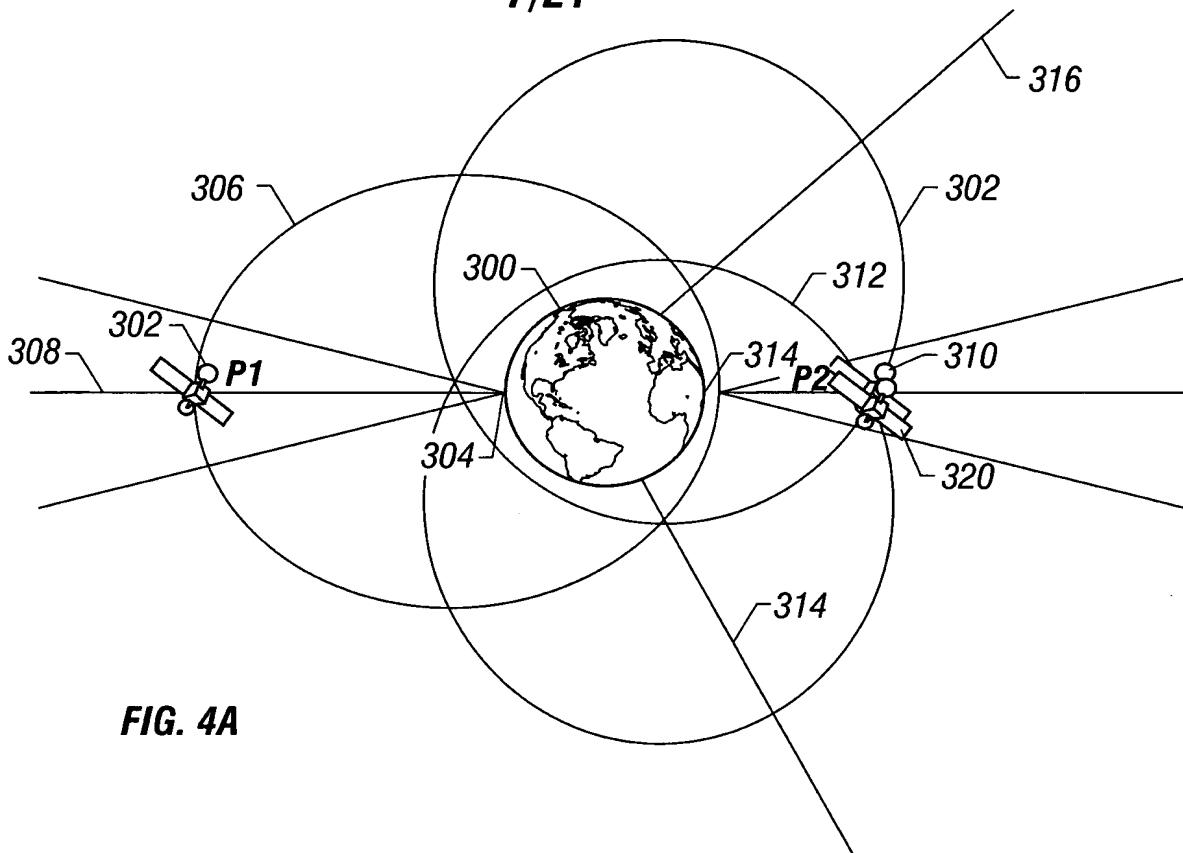


FIG. 4A

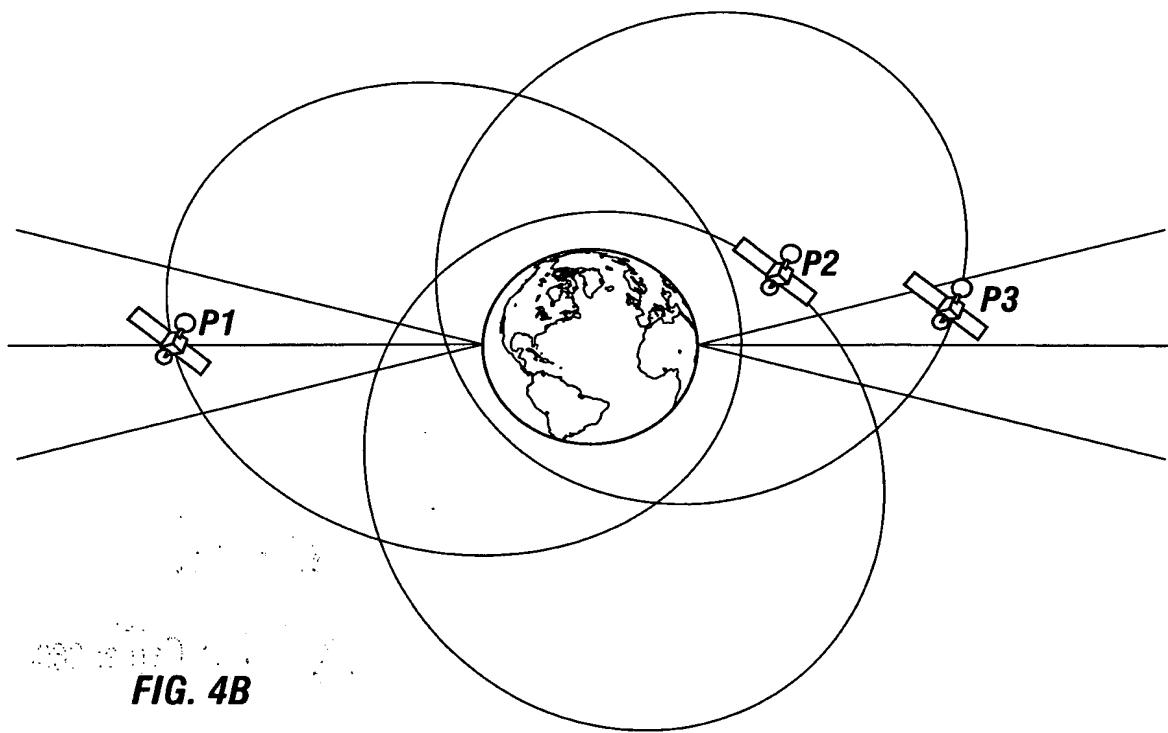


FIG. 4B

David Castiel, et al.

09/658,215

10636-005001



8/21

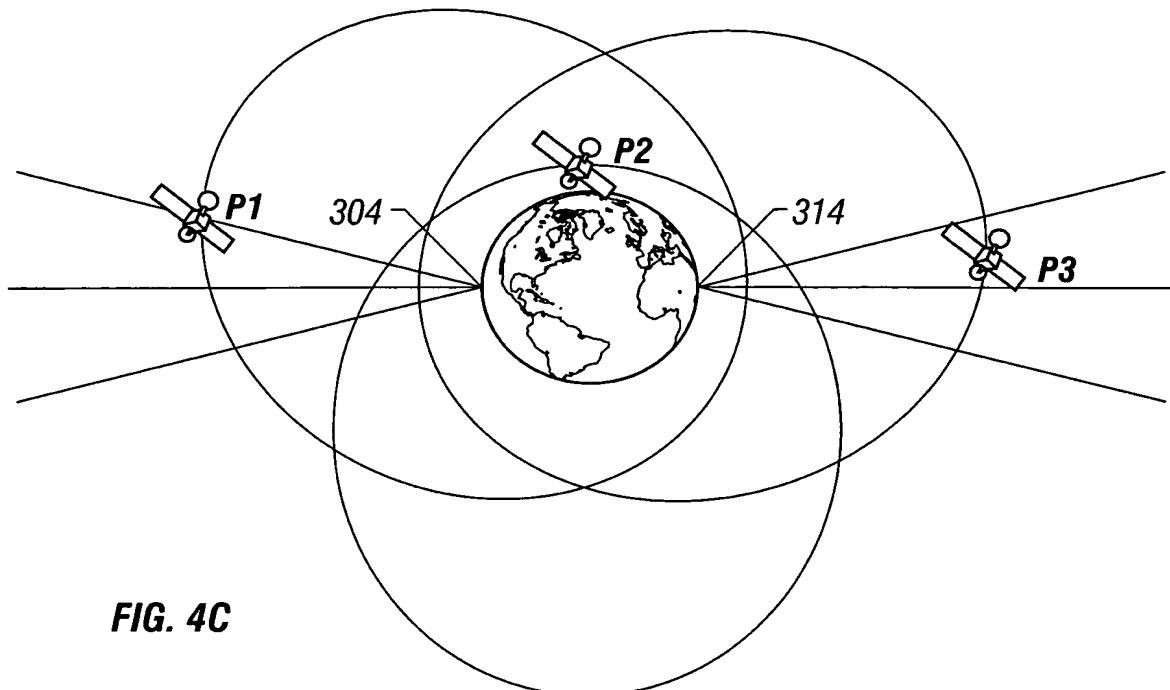


FIG. 4C

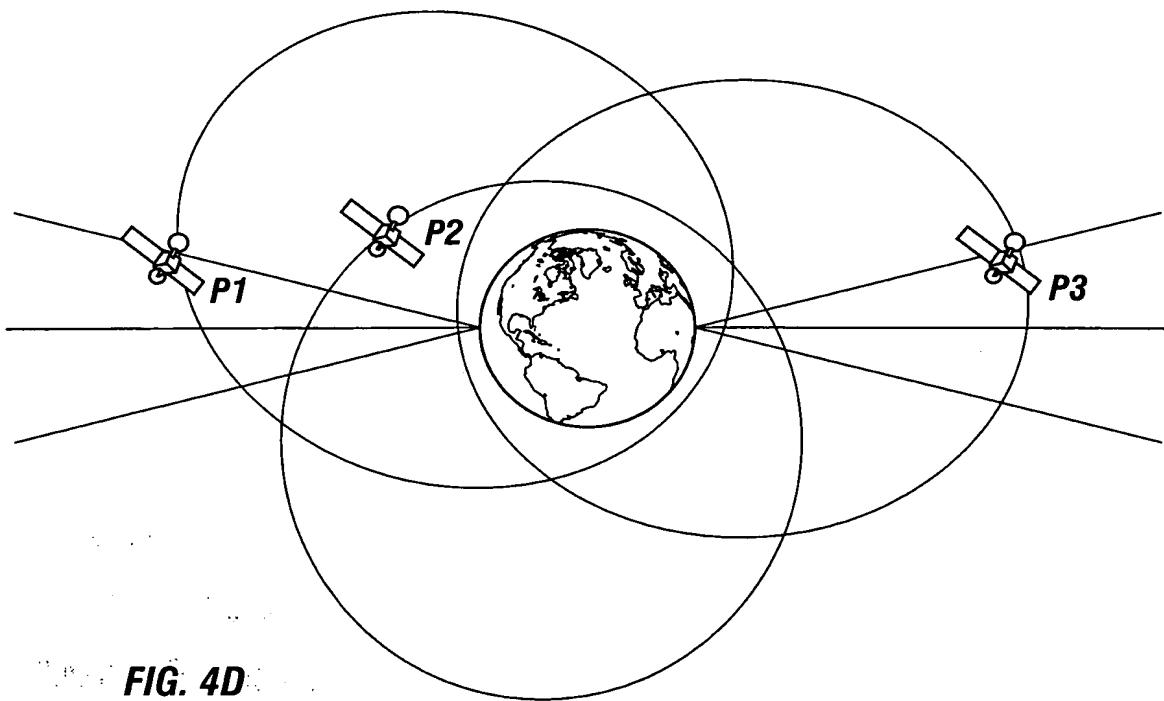


FIG. 4D

Page 9 of 21
FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
09/658,215
10636-005001



9/21

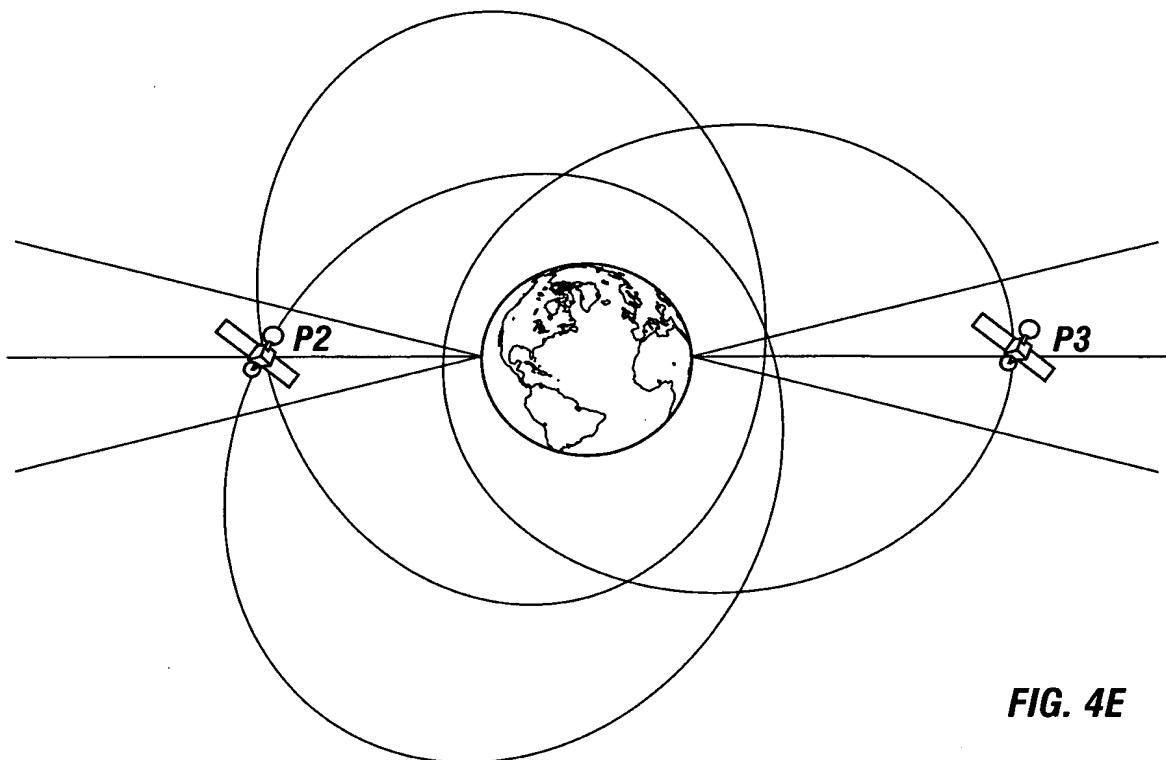


FIG. 4E

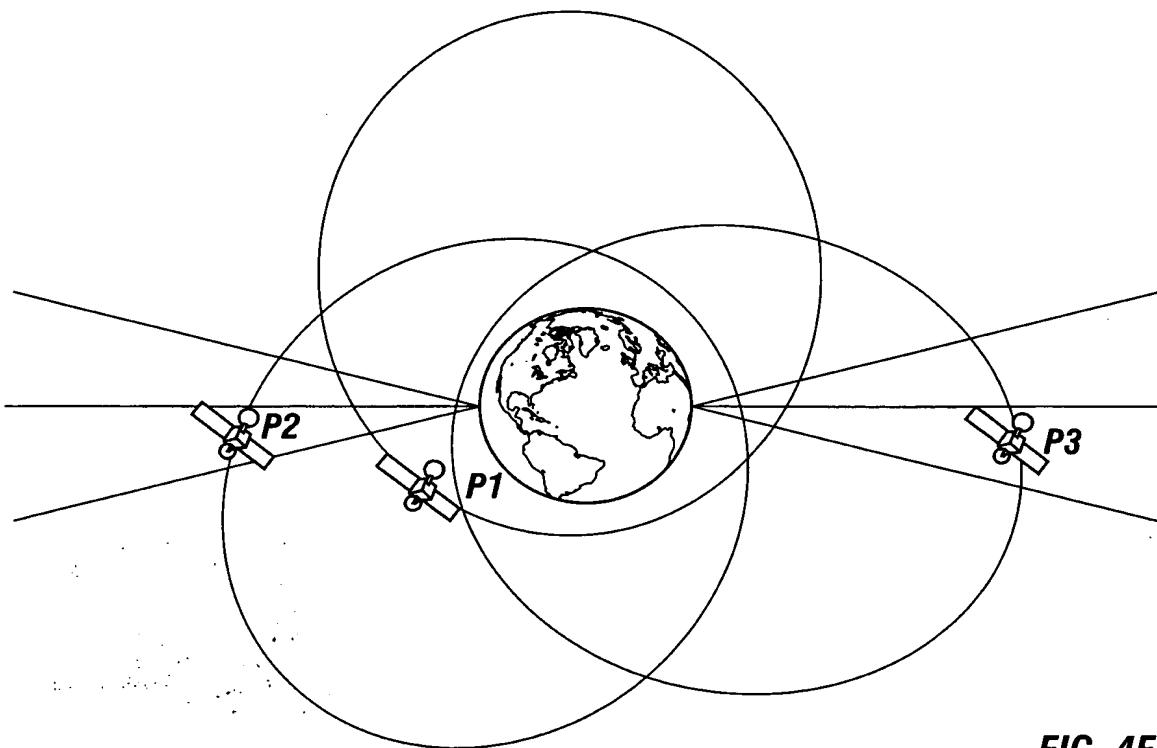


FIG. 4F

David Castiel, et al.

09/658,215

10636-005001



10/21

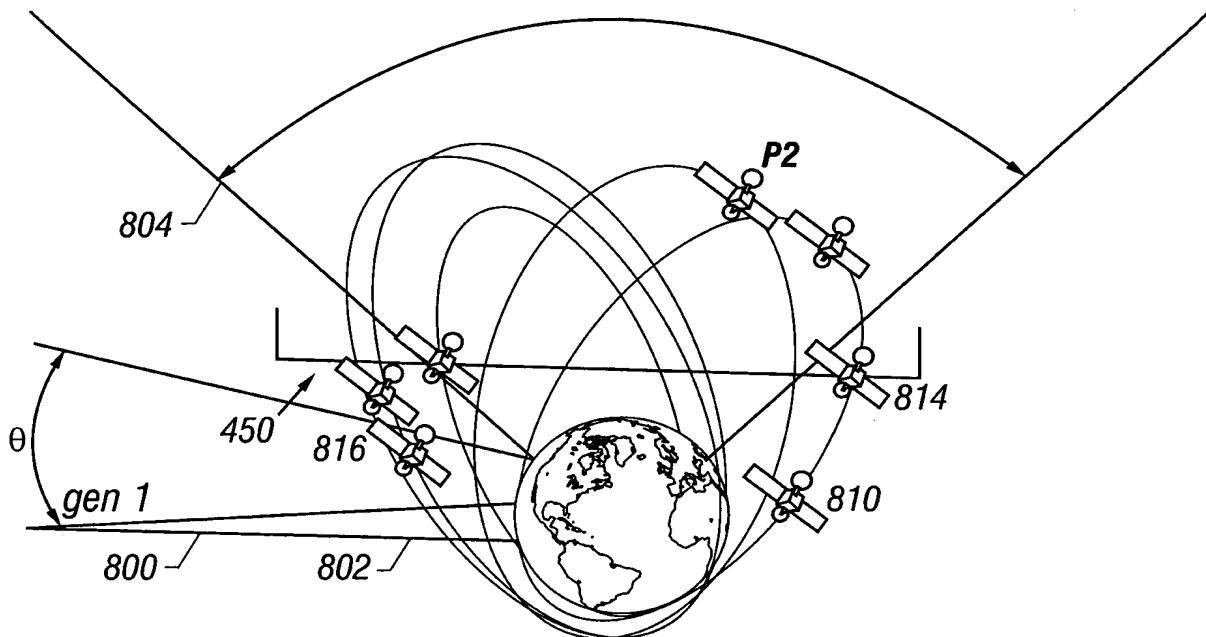


FIG. 4G

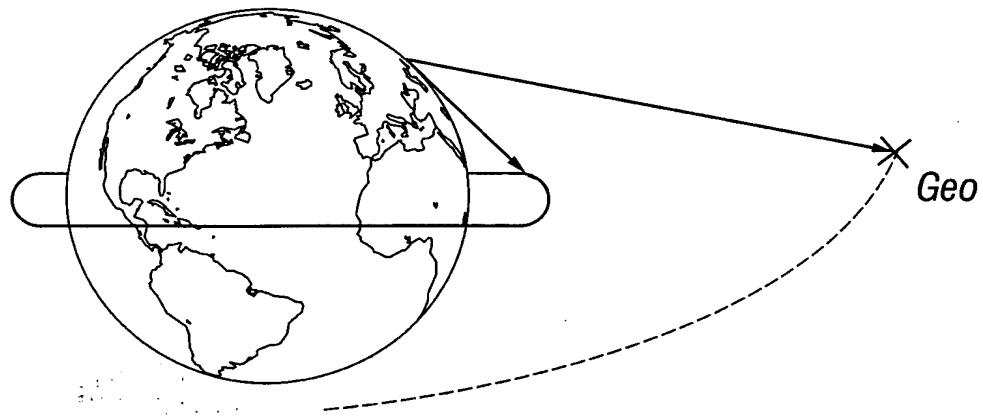


FIG. 4H



David Castiel, et al.

09/658,215

10636-005001

11/21

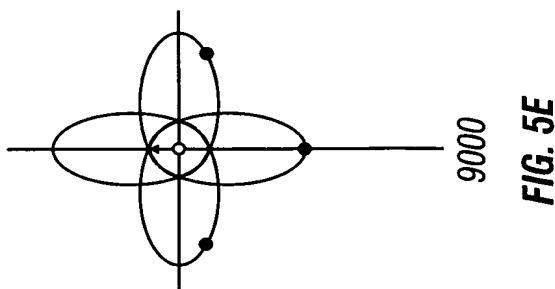


FIG. 5E

2100

FIG. 5D

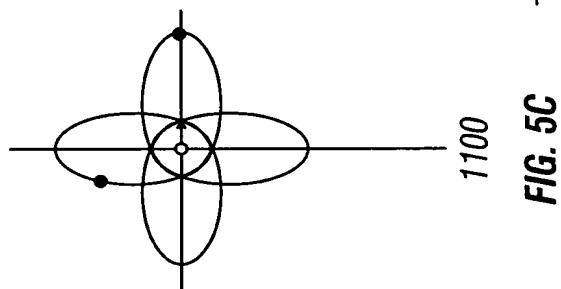
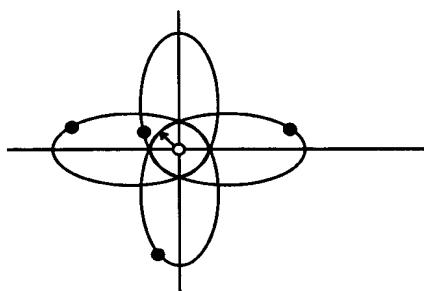


FIG. 5C

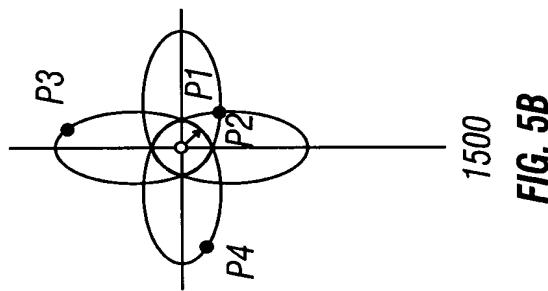


FIG. 5B

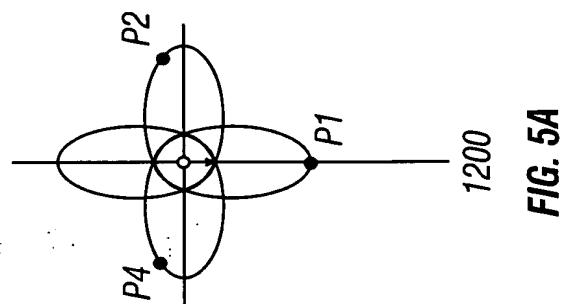


FIG. 5A

FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.

09/658,215

10636-005001

12/21

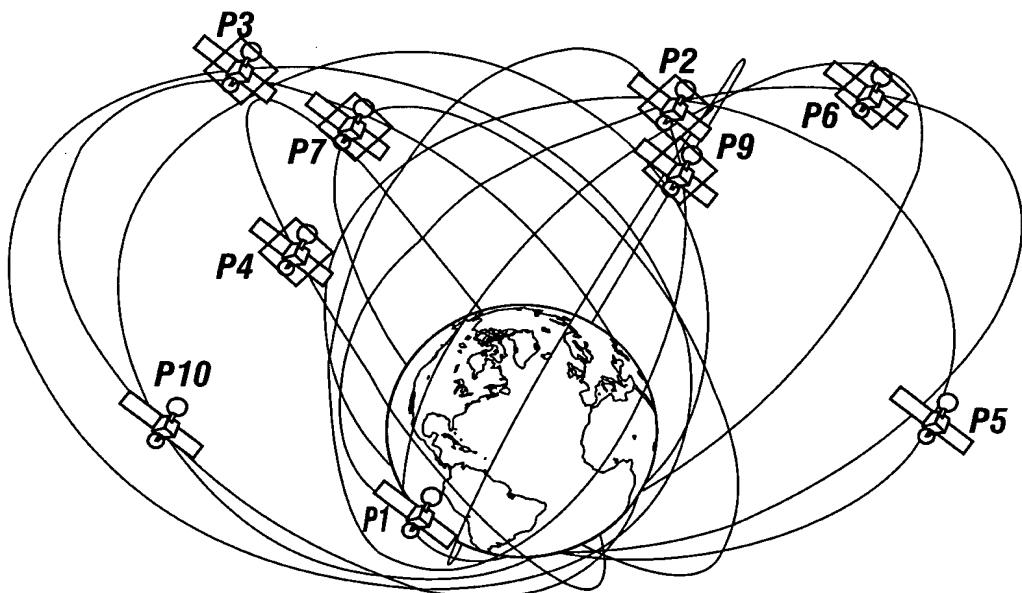


FIG. 6

David Castiel, et al.

09/658,215

10636-005001



13/21

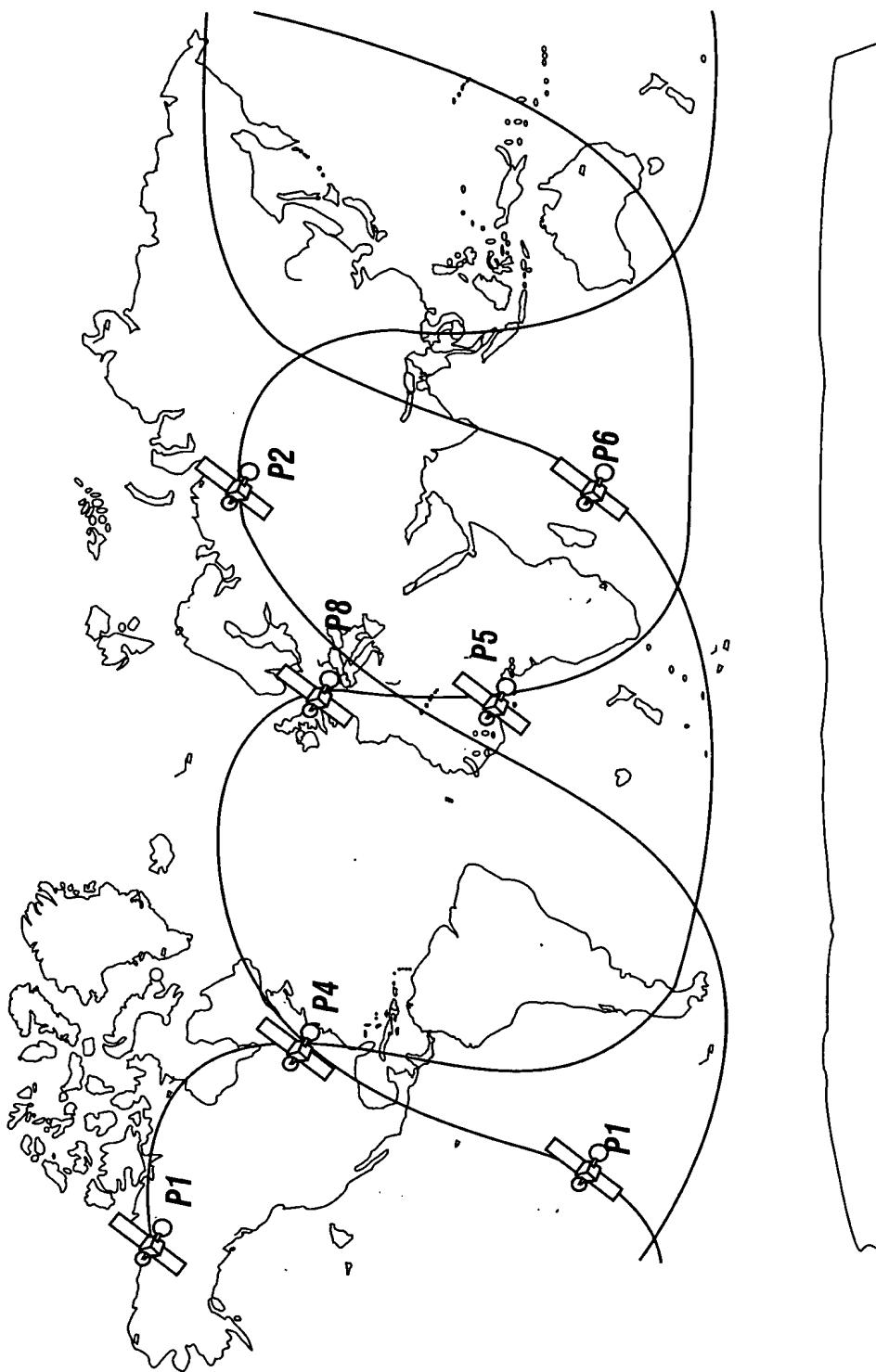


FIG. 7A

David Castiel, et al.

09/658,215

10636-005001



14/21

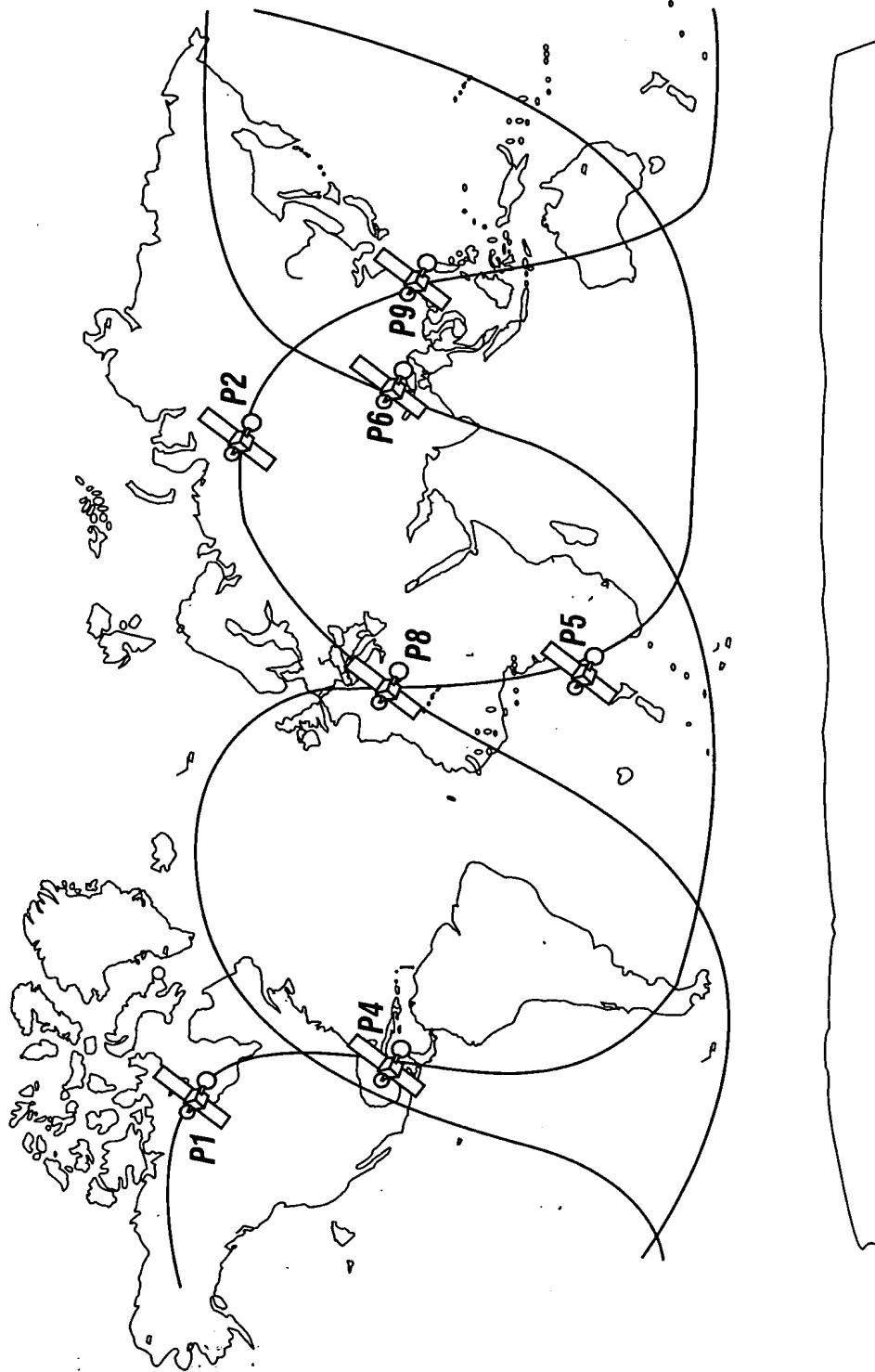


FIG. 7B

David Castiel, et al.

09/658,215

10636-005001

O P F
DEC 29 2003PATENT & TRADEMARK OFFICE
U.S. GOVERNMENT

15/21

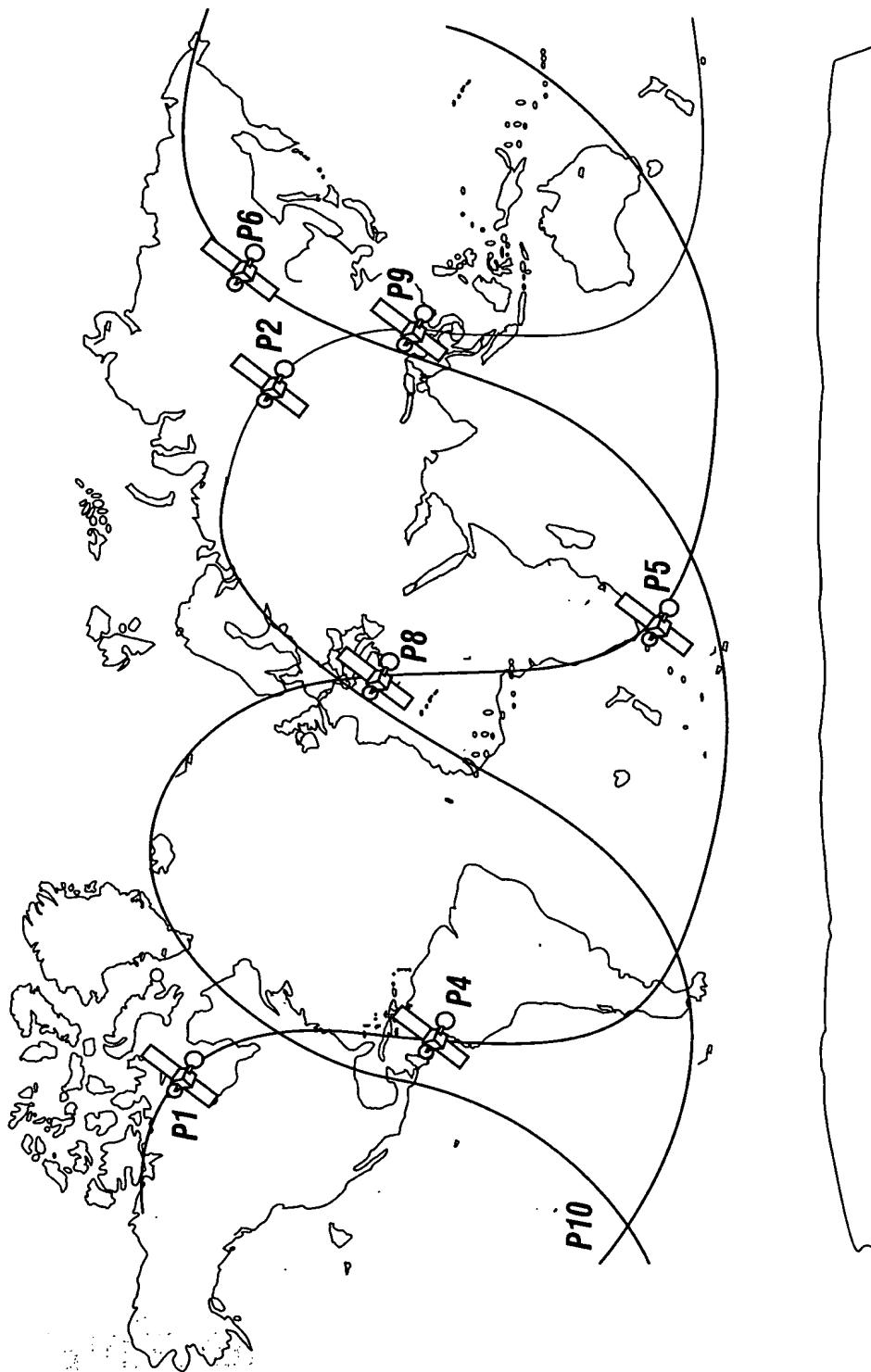


FIG. 7C

David Castiel, et al.

09/658,215

10636-005001



16/21

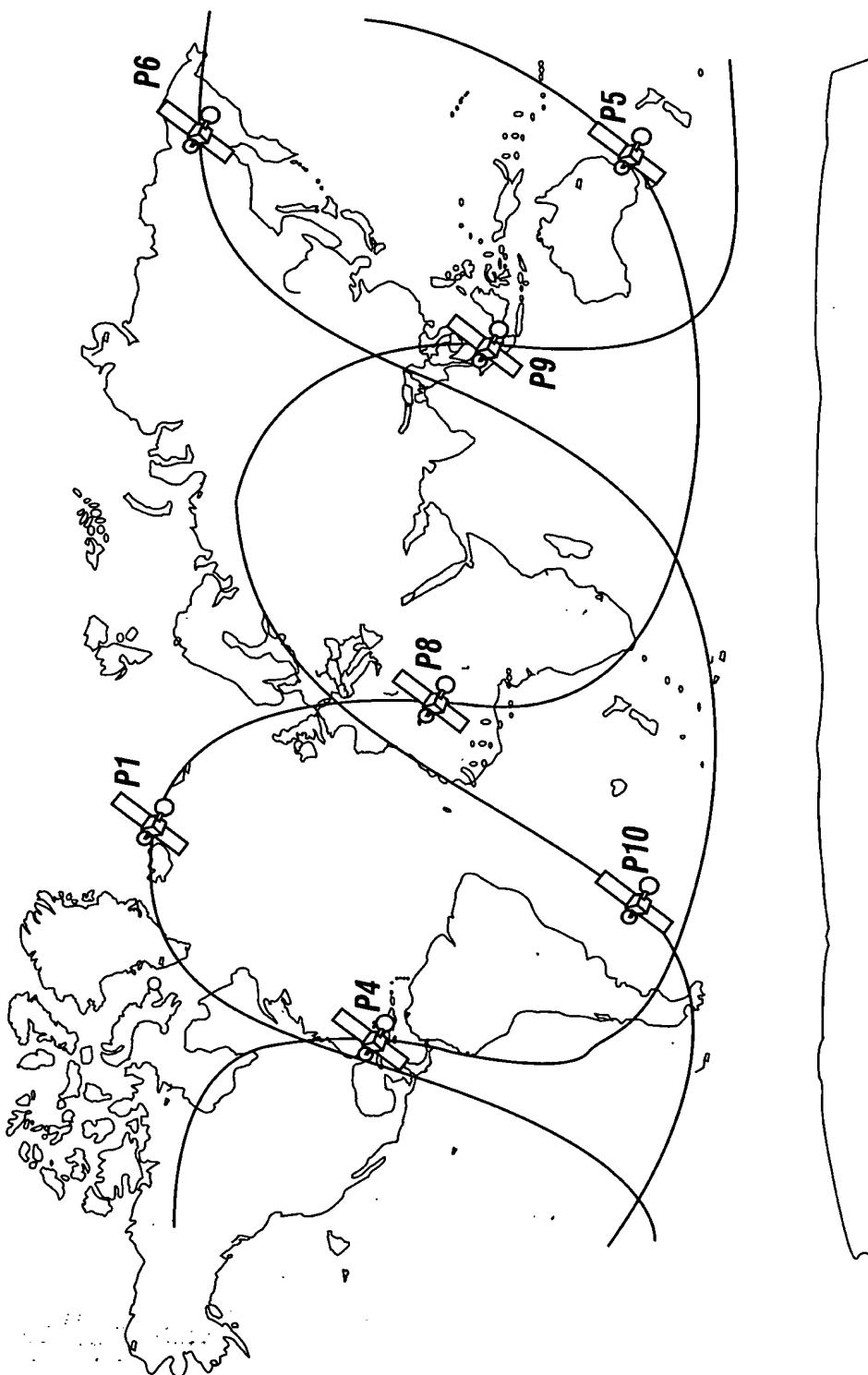


FIG. 7D

O I P E
DEC 29 2003
JC:2 3042
PATENT & TRADEMARK OFFICE
Page 17 of 21
FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
09/658,215
10636-005001

17/21

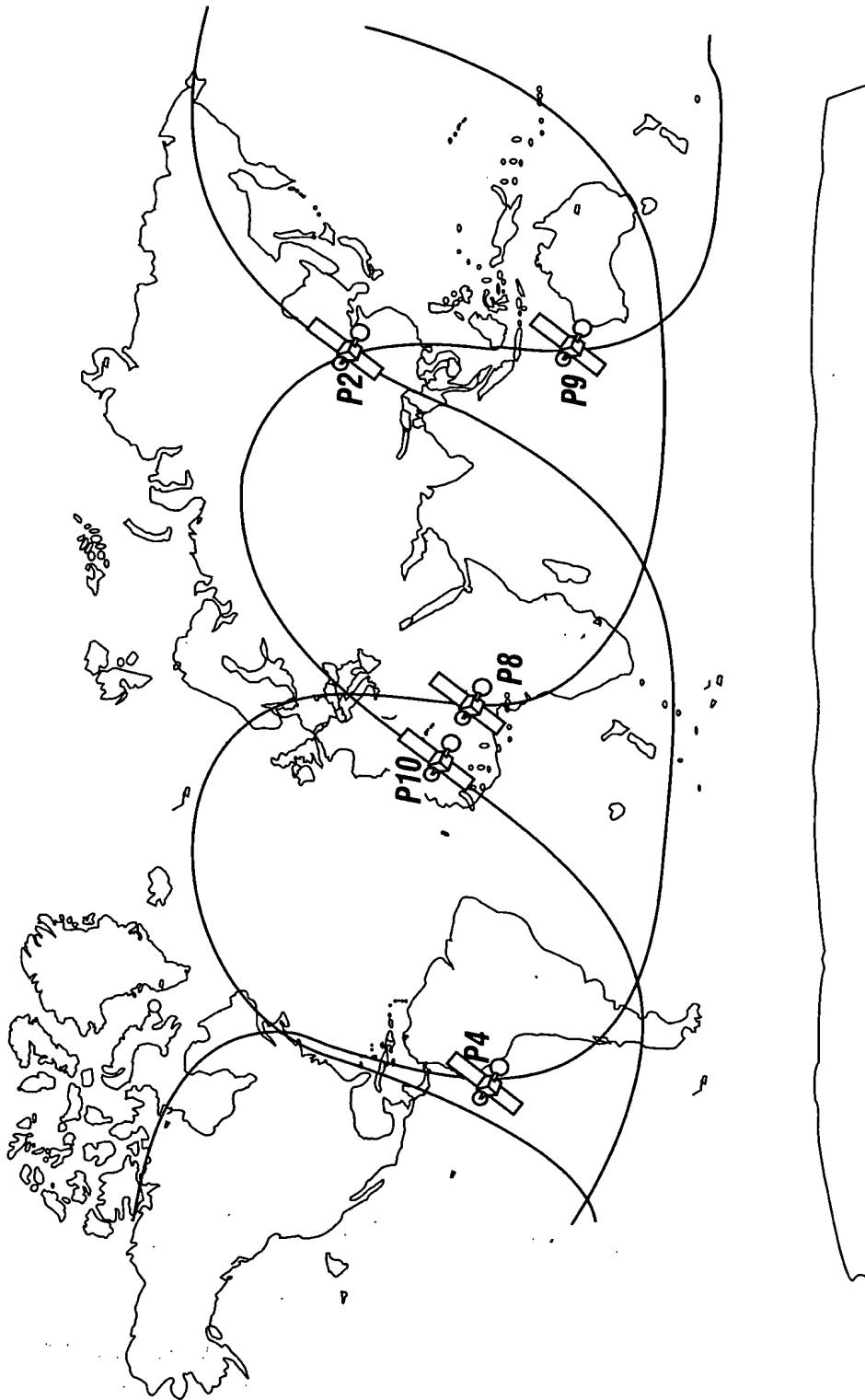


FIG. 7E

David Castiel, et al.

09/658,215

10636-005001



18/21

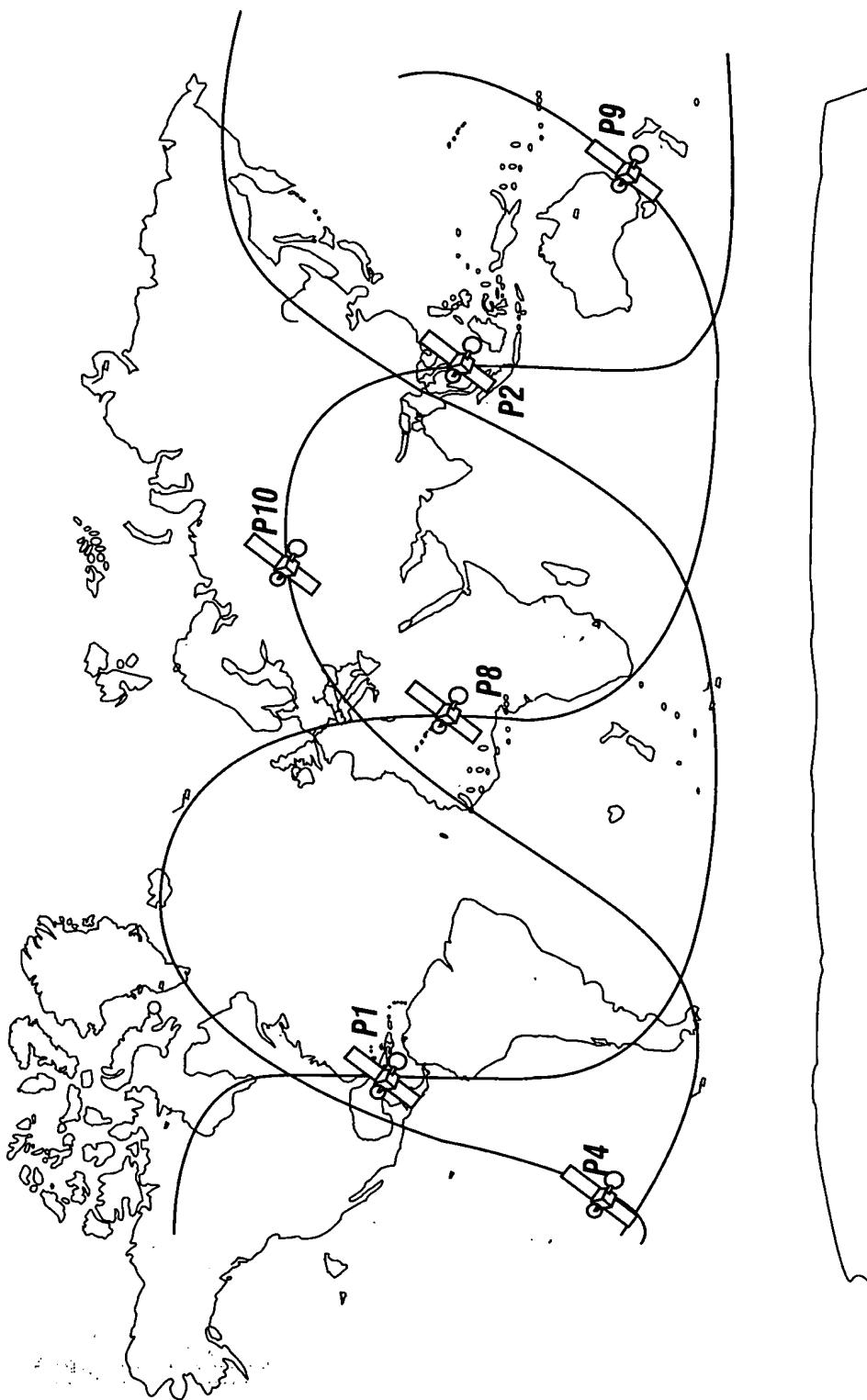


FIG. 7F



Page 19 of 21
FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-
GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.
09/658,215
10636-005001

19/21

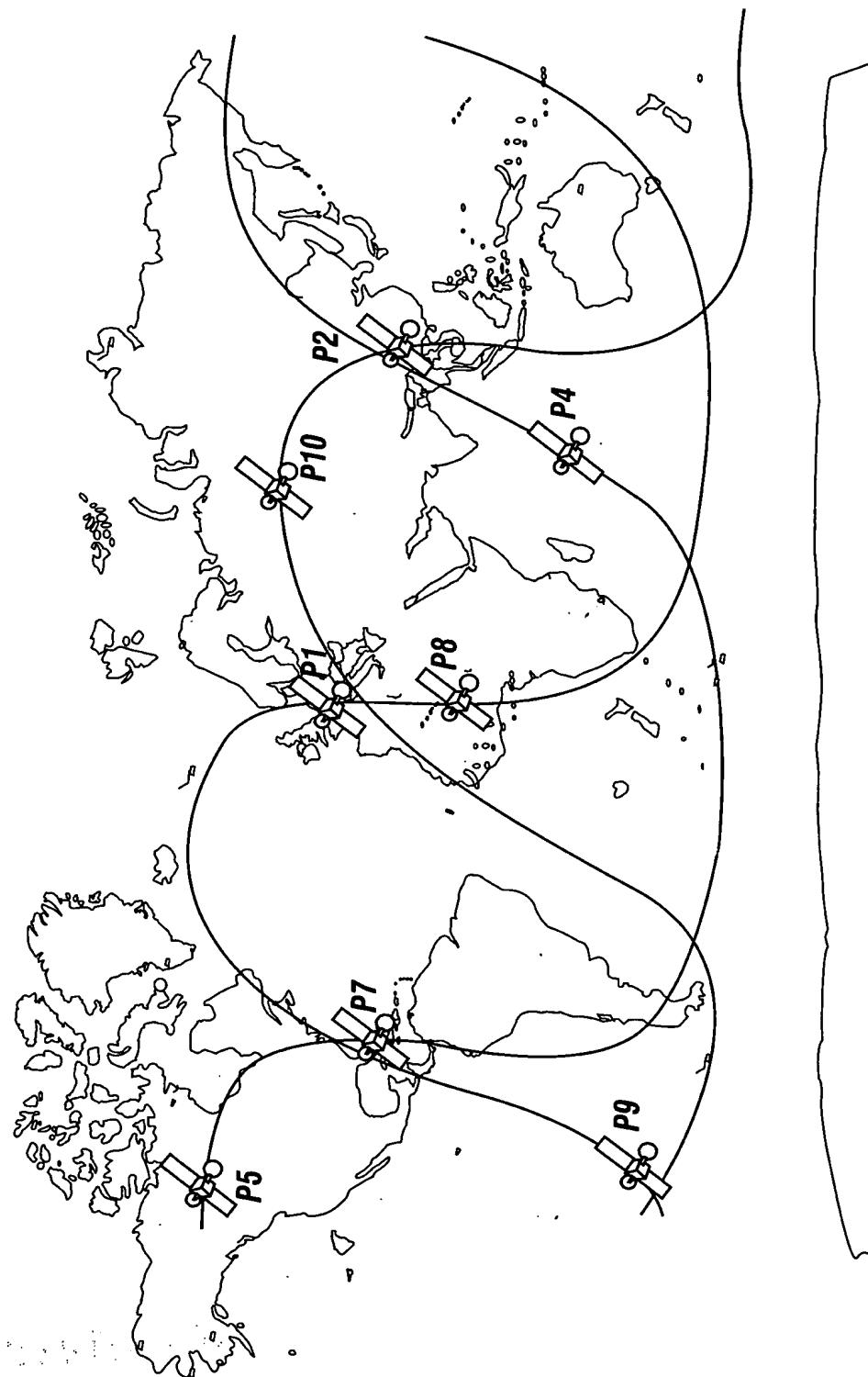


FIG. 7G

David Castiel, et al.
09/658,215
10636-005001

O I P F
DEC 29 2003

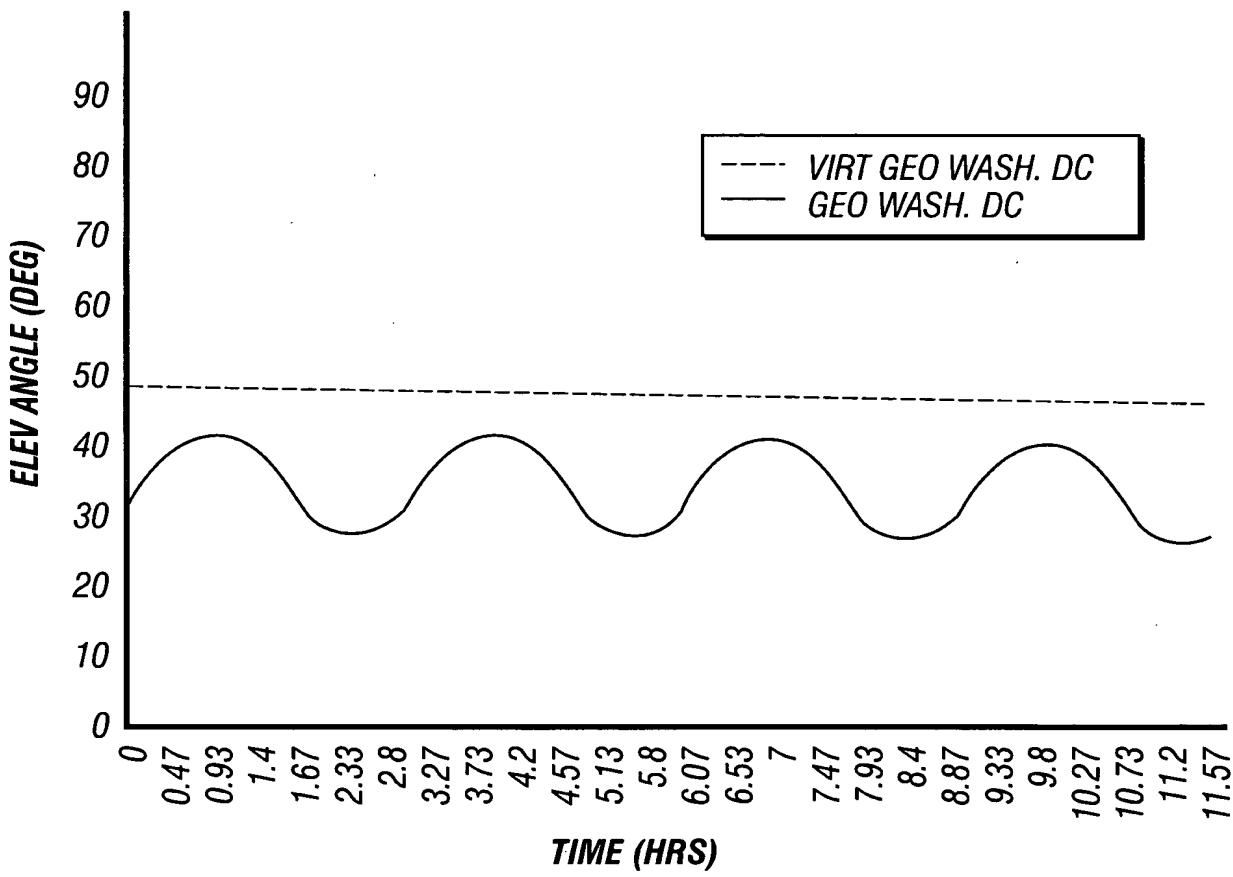


FIG. 8



FIXED SATELLITE CONSTELLATION SYSTEM EMPLOYING NON-GEOSTATIONARY SATELLITES IN SUB-GEOSYNCHRONOUS ELLIPTICAL ORBITS WITH COMMON GROUND TRACKS

David Castiel, et al.

09/658,215

10636-005001

21/21

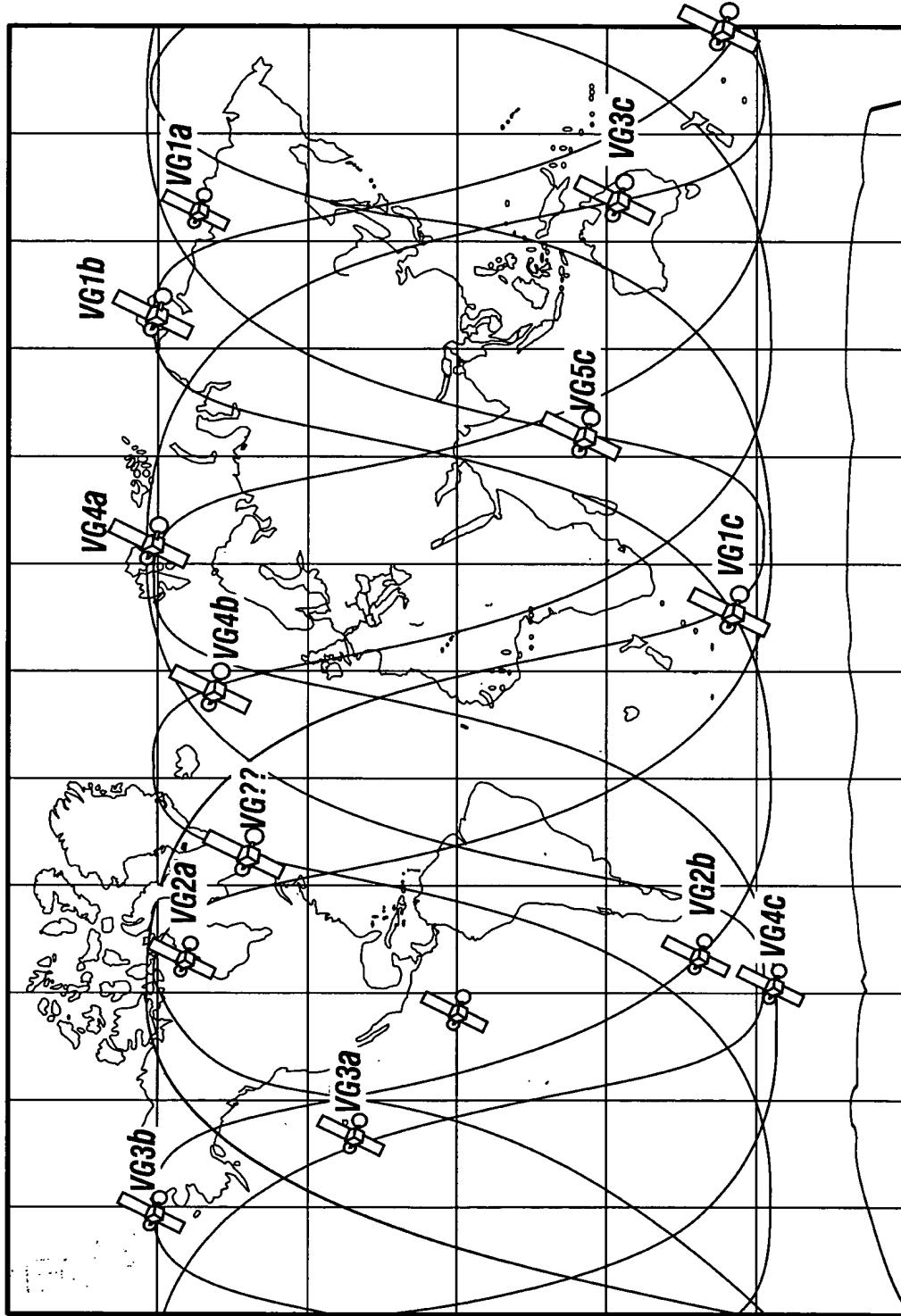


FIG. 9